$R_0=\frac{uR_{0max}}{I_0}$ AN $R_0=\frac{8}{0,4}=\boxed{20\Omega=R_0}$

On a, $I_0=\frac{E}{R_0+r}$

$I_0(R_0+r)=E$

$I_0R_0+I_0r=E$

$r=\frac{E-I_0R_0}{I_0}=\frac{E}{I_0}-R_0$

AN $r=\frac{10}{0,4}-20 \Rightarrow r=5\Omega$

d- $\tau=\frac{L}{R}=\frac{L}{R_0+r}$

$(R_0+r)\tau=L$ AN $L=(20+5)\times20\times10^{-3}=\boxed{0,5=L}$

4) a- $uR_0=R_0i$

$u_{R_0}=R_0I_0(1-e^{\frac{-t}{\tau}})$

$u_b=ri+L\frac{di}{dt}$

$u_b=E-u_{R_0}=\boxed{E-R_0I_0(1-e^{\frac{-t}{\tau}})=u_b}$

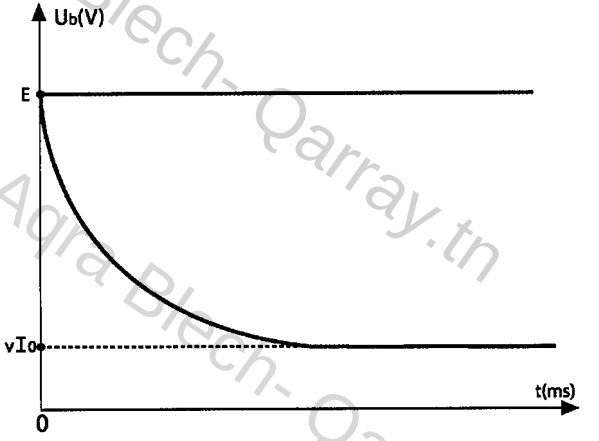
à t=0 $u_b=E$

à t=∞ $u_b=r.I_0$

$u_b=E-\frac{R_0E}{R_0+r}=\frac{(R_0+r)E-R_0}{R_0+r}$

$=r\frac{E}{R_0+r}$

$\boxed{=r.I_0}$




5) $E_m=\frac{1}{2}L.i^2$

Au régime permanent $i = I_0 = 0,4A$.

Qarray.tn -Agra Blech- Qarray.tn